Appendix C

Congener-Specific Chemical Analysis Results (TEQs) for Tissue Samples

Appendix C1

Flag Codes and Definitions for PCDD/F Analyses

Table C1-1. Definition, Application, and Uses of Flagged Data for Risk Assessment of Dioxins

(EPA R8 Soil and RMA Tissue Studies of Dioxins, 2000, ref. RMA/EAL SOP 803)

Validation Flags	Meaning of Flags for Dioxin Soil Analyses by MRI Laboratory	Usability* of Reported Data Values	
		Full data set used (*semi-quantitative*)	**Quantitative** data set (> MQL used)
E	**E**stimated Maximum Potential Concentration; the relative ion abundance ratios did not meet the acceptance limits.	Use value	Use 1/2 value
D	EMPC is caused by polychlorinated **D**iphenyl ether interference.	Use 1/2 value	Don't use
B	Analyte was detected in associated Method **B**lank, sample concentration < 5x MB concentration.	Use value	Use 1/2 value
C	Concentration is above upper **C**alibration Standard; result is an estimate, flagged C by lab and J added by validator.	Use value	Use value
I	Recovery of 13C-labeled **I**sotopic analyte outside of criteria	Use value	Use value
J	Estimated: e.g., isotopic standard is outside CCAL range, native analyte recovery in LCS is outside criteria, etc.	Use value	Use 1/2 value
NJ	Presumptive evidence for the presence of an analyte with an estimated value; if used for 2,3,7,8-TCDF, see "U" below	Use 1/2 value	Don't use
S	Peak is **S**aturated; result, if calculated, is flagged by the validator as an estimate – "J."	Use value	Use value
U	**U**nconfirmed: column is not specific for 2,3,7,8-TCDF; confirmation not requested. Validator now uses "NJ" flag.	Use value	Use 1/2 value
R	**R**ejected: result is invalid and not usable.	Use 1/2 EDL	Don't use
MRI Laboratory reported "LT" values < MQL (MQL = 10 x Signal:Noise Ratio)			
LT *applied **first** to data, then apply flags!*	"LT" is not a true "flag," but if a LT result is a "detect" **above the MDL** (MDL = 2.5 x Signal:Noise = lab EDL), then	Use value	Don't use
	"LT" is not a true "flag", but if a LT result is a "non-detect" **below the MDL** (MDL = 2.5 x Signal:Noise = lab EDL), then	Use 1/2 EDL	Don't use

* Per the 1992 EPA Data Usability for Risk Assessment in Superfund guidance, the above flags are used to produce two data sets: 1) a semi-quantitative set of results with an **actual or proxy value for each of the 29 measured congeners**; and 2) a fully quantitative set of results with more certain identification and more accurate quantities of congeners that have **no disqualifying flags (D, JN, R or LT) or use limited proxies (E, B, J or U)**. This distinction is made to better understand and limit the impacts of less certain estimated values on TEQs, via a sensitivity analysis by comparing TEQs from the two data sets, and to evaluate congener profiles with just the analytes that are able to be adequately quantified.

Note: The term "value" in this table refers to the "found" concentration reported by the MRI laboratory in the electronic spreadsheets of data.